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Patent claims

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1. Blood withdrawal system (1) for collecting blood for analytical or diagnostic purposes, comprising
a housing (3) with an exit opening (4) for the lancet
10 tip of the lancet needle of a lancet (5) that can be moved in the housing (3) along a predetermined puncturing path,
a lancet guide by means of which the lancet (5) can be guided along the predetermined puncturing path,
15 a lancet drive (8) by means of which the lancet (5) can be driven and moved along the predetermined puncturing path in the puncturing direction until its tip, being in a puncturing position, exits from the exit opening (4), and
20 a lancet storage container (6) that is arranged in the housing (3) and in which a plurality of lancets (5) is kept in store at a removal position for removal from the lancet storage container (6),
characterized in that
25 it comprises a lancet tip protective element (13), into which the lancet tip can be inserted before or after a puncturing motion, whereby the protective element (13) mechanically and hygienically protects a lancet tip that is inserted therein, and
30 in that the lancet tip protective element (13) is arranged on the lancet tip in a parking position of the lancets (5), whereby the parking position does

not coincide with the removal position and the puncturing position.

2. Blood withdrawal system according to claim 1,
5 characterized in that the lancet tip protective element (13) and the parking position are arranged in the immediate vicinity of the exit opening (4).
3. Blood withdrawal system according to any one of the
10 preceding claims, characterized in that the lancet tip protective element (13) is arranged stationary in the housing (4).
4. Blood withdrawal system according to any one of the
15 preceding claims, characterized in that the lancet tip protective element (13) can be driven onto the lancet tip by means of a drive.
5. Blood withdrawal system according to any one of the
20 preceding claims, characterized in that the lancet (5) can be driven by means of the lancet drive into the parking position, in which the lancet tip is situated in the lancet tip protective element (3).
- 25 6. Blood withdrawal system according to any one of the preceding claims, characterized in that it comprises a holding facility (19) for holding the lancet (5) in the parking position.
- 30 7. Blood withdrawal system according to any one of the preceding claims, characterized in that the lancet tip protective element (13) is arranged such that the lancet tip can be inserted into the lancet tip
35 protective element (13) by a motion that proceeds parallel to the puncturing motion.

8. Blood withdrawal system according to any one of the preceding claims, characterized in that the lancet tip protective element (13) is arranged in the lancet storage container (6).
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9. Blood withdrawal system according to any one of the preceding claims, characterized in that the lancet tip protective element (13) comprises an elastic material (15) into which the lancet tip can be inserted.
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10. Blood withdrawal system according to any one of the preceding claims, characterized in that the lancet tip protective element (13) comprises a sterilizing, microbicidal, inactivating, disinfecting, bactericidal or fungicidal material for cleaning or protecting the lancet tip.
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11. Blood withdrawal system according to claim 9, characterized in that the elastic material (15) is designed according to claim 10.
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12. Blood withdrawal system according to claim 9, characterized in that the elastic material (15) comprises a cover (21) made of an absorbent material.
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13. Blood withdrawal system according to any one of the preceding claims, characterized in that the lancet tip protective element (13) or the elastic material (15) is replaceable.
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14. Blood withdrawal system according to any one of the preceding claims, characterized in that it is designed such that a lancet (5) can be used multiply
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to collect blood and can be driven into the lancet tip protective element (13) between puncturing motions.

- 5 15. Blood withdrawal system according to any one of the preceding claims, characterized in that it comprises operating elements the user can use to set whether a new lancet (5) from the lancet storage container (6) or a lancet (5) from the parking position in the
10 lancet tip protective element (13) that was used previously for taking a blood sample is used for the subsequent blood taking process.
- 15 16. Blood withdrawal system according to any one of the preceding claims, characterized in that it comprises a test element cartridge (17) that is integrated into the blood collection system, preferably is arranged inside the housing (3).
- 20 17. Blood analysis device (2), in particular portable, mobile blood analysis device, characterized in that it comprises a blood withdrawal system (1) according to any one of the claims 1 to 16.
- 25 18. Method for taking a blood sample with a blood withdrawal system (1) for analytical or diagnostic purposes, whereby the blood withdrawal system comprises a housing (3) with an exit opening (4) for the lancet tip of the lancet needle of a lancet (5)
30 that is moved in the housing (3) along a predetermined puncturing path,
comprises a lancet guide by means of which the lancet (5) is guided along the predetermined puncturing path,

comprises a lancet drive (8) by means of which the lancet (5) is driven and moved along the predetermined puncturing path in the puncturing direction until its tip, being in a puncturing position, exits from the exit opening (4), and
5 comprises a lancet storage container (6) that is arranged in the housing (3) and in which a plurality of lancets (5) is kept in store at a removal position for removal from the lancet storage container (6),

10 characterized in that

the lancet tip is inserted into a lancet tip protective element (13) before or after a puncturing motion, whereby the protective element (13) mechanically and hygienically protects a lancet tip that is inserted therein, and
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in that the lancet tip protective element (13) is arranged on the lancet tip in a parking position of the lancets (5), whereby the parking position does not coincide with the removal position and the puncturing position.
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19. Method according to claim 18, characterized in that the lancet tip protective element (13) and the parking position are arranged in the immediate vicinity of the exit opening (4).
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20. Method according to any one of the preceding claims, characterized in that the lancet tip protective element (13) is arranged stationary in the housing (4).
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21. Method according to any one of the preceding claims, characterized in that the lancet tip protective

element (13) is driven onto the lancet tip by means of a drive.

22. Method according to any one of the preceding claims,
5 characterized in that the lancet (5) is driven by means of the lancet drive into the parking position, in which the lancet tip is situated in the lancet tip protective element (13).
- 10 23. Method according to any one of the preceding claims, characterized in that the lancet (5) is held in the parking position by means of a holding facility (19).
- 15 24. Method according to any one of the preceding claims, characterized in that the lancet tip protective element (13) is arranged such that the lancet tip is inserted into the lancet tip protective element (13) by a motion that proceeds parallel to the puncturing motion.
- 20 25. Method according to any one of the preceding claims, characterized in that it comprises a procedural step, in which a lancet (5) that was used to perform a puncturing motion is transported back to the lancet storage container (6).
- 25 26. Method according to claim 25, characterized in that the used lancet (5), before being transported back to the lancet storage container (6) and being in the parking position, is inserted into a lancet tip protective element (13).
- 30 27. Method according to any one of the preceding claims, characterized in that it comprises a procedural step,

in which the lancet storage container (6) is replaced.

28. Method according to any one of the preceding claims,
5 characterized in that a lancet is used multiply to take a blood sample and is driven into the lancet tip protective element (13) between the puncturing motions.